JAPANESE [JP,06-157955,A]

CLAIMS DETAILED DESCRIPTION TECHNICAL FIELD EXAMPLE CORRECTION OR AMENDMENT

[Translation done.]

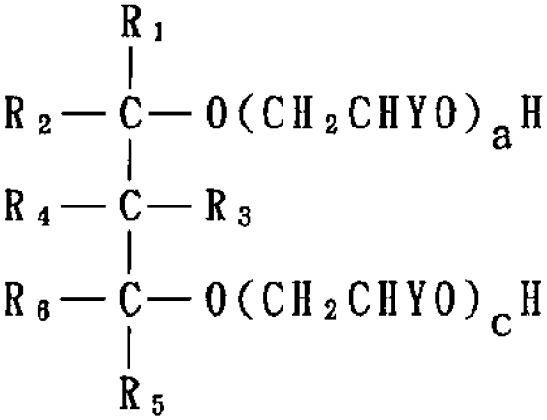
* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

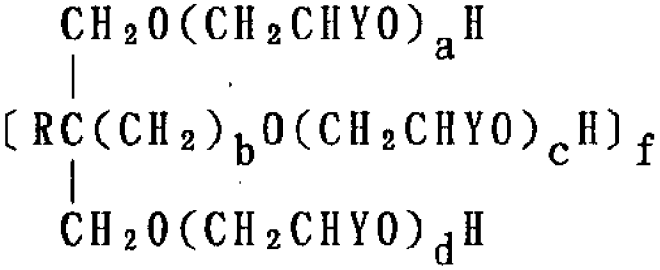
[Claim(s)]
[Claim 1](a) An aqueous carrier medium;
(b) Colorant; and (c) An aqueous ink composition containing at least one curl inhibitor of sufficient quantity to remove curl in a regular paper printing element substantially.
[Claim 2]A curl inhibitor has at least 4.5% of water solubility at 25 **, and it is (a). 1,3-diol, 1,3,5-triol, amino-1,3-diol, and the following structural formula : [Formula 1]



[Independently R^1, R_2, R_4, R_5, and R_6 among a formula H, Are C_nH_{2n+1} (it is n= 1-4 here) or $C_nH_{2n}O(CH_2CHYO)_bH$ (it is n= 1-6 and b= 0-25 here), and;R_3=H, C_nH_{2n+1} (it is n= 1-4 here), $C_nH_{2n}O$

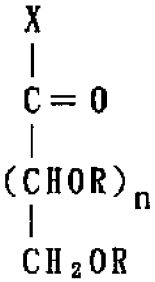
$(CH_2CHYO)_bH$ (it is n= 1-6 and b= 0-25 here), or $(CH_2)_e$ NXZ (here -- X and Z -- independently -- H -- it CH_3(ing) and) Are C_2H_5 or $C_2H_4O(CH_2CHYO)_dH$ (it is d= 0-25 and e= 0-3 here), and;Y=H or CH_3;a, and c independently. The polyoxyalkylene derivative which has that it is 0-25 and the totals of; and a CH_2CHYO unit are 0-100];

(b) Polyols and the following structural formula :[Formula 2]



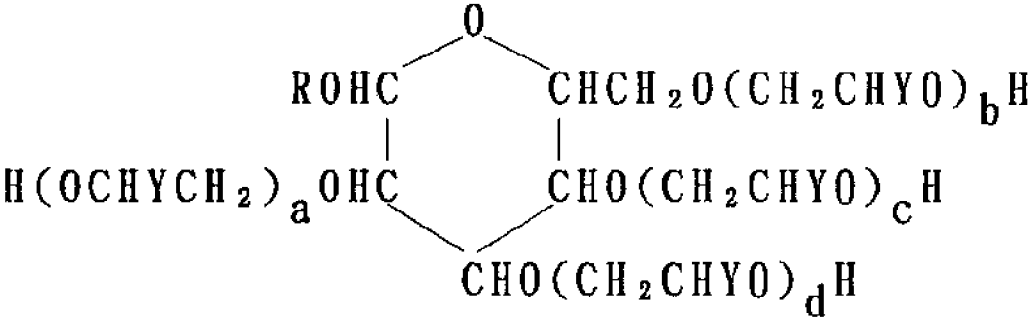
[Among a formula, independently, R is H, C_nH_{2n+1} (it is n= 0-4 here), or $CH_2O(CH_2CHYO)_eH$, and; Y=H, CH_3;b=0, or 1;a, Although c, d, and e are 0-40 independently and the totals of;f=1-6; and a CH_2CHYO unit are 0-100, The polyoxyalkylene derivative which has that however, e is not 0 when it is a, b, c, d= 0, and f= 1 and R is not H but a, c, d= 0, b, and f= 1];

(c) The following structural formula : [Formula 3]



[The inside of a formula, X=H, OH, $CH_2O(CH_2CHYO)_aH$, It is $O(CH_2CHYO)_bH$ or OM (OM is a metallic cation here), and is :n=2 - 7;R=$(CH_2CHYO)_c$ (here). Compound which has that Y=H or CH_3; a, b, and c are 0-25 independently, and the totals of; and a CH_2CHYO unit are 0-125];

(d) Pyranoside and the following structural formula : [Formula 4]



The polyalkoxy alkylene derivative which has [it is inside of a formula, R=H, or C_nH_{2n+1} (it is n= 0-4 here), and;a, b, c, and d are 0-30 independently, and the totals of;Y=H or CH_3;, and a CH_2CHYO unit are 0-120];

(e) Structural-formula:H-$(OCH_2$ CHY$)_x$OH(inside of formula, Y=H or CH_3, and x= 3-20); and the (f)

structural formula which are the following : $Z_1Z_2N(CH_2CH_2NZ_3)_nZ_4$The inside of [type, Z_1, Z_2, Z_3, and Z_4 are $_aH$ (here) independently (CH_2CHYO). The ink composition according to claim 1 chosen from the group which consists of a polyoxyalkylene derivative of the aliphatic polyamine which has that it is Y=H or CH_3,;n=1-20;a is 0-20 independently, and the totals of; and a CH_2CHYO unit are 3-200].

[Claim 3]The ink composition according to claim 2 which is a pigment dispersion object object in which colorant contains paints and a polymers dispersing agent.

[Claim 4]The ink composition according to claim 2 whose colorant is a color.

[Claim 5]The ink composition according to claim 2 which is a compound in which a curl inhibitor has a structural formula (a).

[Claim 6]The ink composition according to claim 5 chosen from a group which R_3 and R_4 become from H and C_nH_{2n+1} (here, it is n= 1-4) independently.

[Claim 7]The ink composition according to claim 5 whose curl inhibitor is 2,2-dimethyl- 1,3-propanediol.

[Claim 8]The ink composition according to claim 5 whose R_3 is NXZ (here, X is chosen from a group which consists of H, CH_3, C_2H_5, and C_2H_4 OH).

[Claim 9]The ink composition according to claim 5 which is total =2-50 of a CH_2CHYO unit.

[Claim 10]The ink composition according to claim 5 whose curl inhibitors are the 3-methyl- 1 and 3 and 5-pentanetriol.

[Claim 11]The ink composition according to claim 2 which is a compound in which a curl inhibitor has a structural formula (b).

[Claim 12]The ink composition according to claim 11 which is total =3-50 of a CH_2CHYO unit.

[Claim 13]The ink composition according to claim 11 whose curl inhibitor is a 2-ethyl-2-(hydroxymethyl)-1,3-propanediol.

[Claim 14]The ink composition according to claim 11 whose curl inhibitor is a 2-methyl-2-(hydroxymethyl)-1,3-propanediol.

[Claim 15]The ink composition according to claim 11 whose curl inhibitor is sorbitol.

[Claim 16]The ink composition according to claim 2 which is a compound in which a curl inhibitor has a structural formula (c).

[Claim 17]The ink composition according to claim 16 whose curl inhibitor is alpha D-glucose.

[Claim 18]The ink composition according to claim 2 which is a compound in which a curl inhibitor has a structural formula (d).

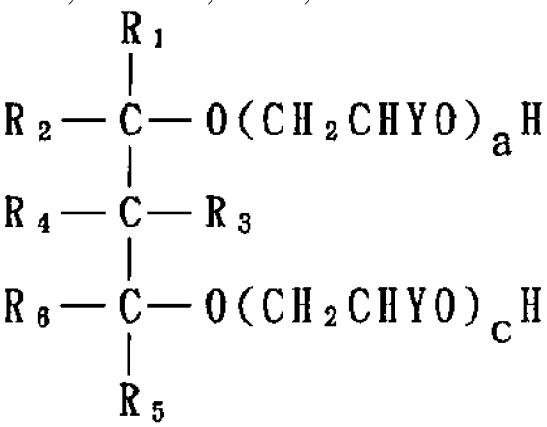
[Claim 19]The ink composition according to claim 18 whose curl inhibitor is an oxyalkylene derivative of methyl alpha D-glucoside.

[Claim 20]The ink composition according to claim 2 which is a compound in which a curl inhibitor has a structural formula (e).

[Claim 21]The ink composition according to claim 20 chosen from a group which a curl inhibitor becomes from triethylene glycol which has a molecular weight of the range of 200-400, tetraethylene glycol, and a polyethylene glycol.

[Claim 22]The ink composition according to claim 2 which is a compound in which a curl inhibitor has a structural formula (f).

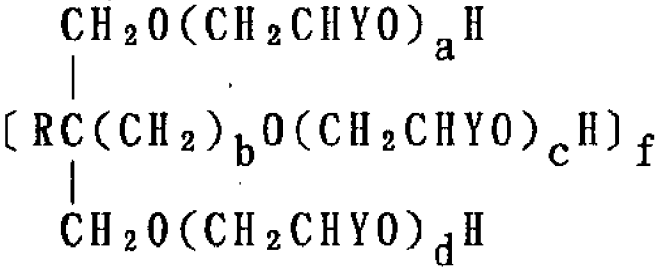
[Claim 23]The ink composition according to claim 22 whose curl inhibitor is a polyoxyethylene derivative of ethylenediamine.
[Claim 24]An ink composition which the above-mentioned polymers dispersing agent is the ink composition according to claim 3 containing block copolymer, and makes it together with weight of about 0.1 to 8% of paints, 0.1 to 8% of block copolymer, and a curl inhibitor on the basis of gross weight of an ink composition, and contains 84 to 99.8% of aqueous carrier medium.
[Claim 25]The ink composition according to claim 4 which makes it together with weight of about 0.01 to 20% of color, and a curl inhibitor on the basis of gross weight of an ink composition, and contains 80 to 99.99% of aqueous carrier medium.
[Claim 26]The ink composition according to claim 4 which contains further polymer chosen from a group which consists of AB block polymer, BAB block polymer, ABC block polymer, and random polymer.
[Claim 27]an ink jet printer which has the color gamut by which the above-mentioned ink was improved -- service water -- the ink composition according to claim 4 in which it is some sex color system ink sets, and the above-mentioned ink contains a curl inhibitor including cyan ink, magenta ink, and yellow ink, respectively in the above-mentioned ink set.
[Claim 28]Cyan ink contains 1.75 to 2.5% of acid blue 9 color, The ink composition according to claim 27 in which yellow ink contains 1.75 to 3% of acid yellow 23 color, and magenta ink contains 1 to 3% of reactive reactivity red 180 color, and 0.3 to 1.5% of acid red 52 color.
[Claim 29]The ink composition according to claim 1 in which a curl inhibitor exists in 10 to 75% of the weight of quantity on the basis of gross weight of ink.
[Claim 30]The ink composition containing jet ink in which the above-mentioned ink composition has the viscosity of 20 or less cp at surface tension of about 18 to 70 dyne/cm, and 20 ** according to claim 1.
[Claim 31]The ink composition according to claim 1 which furthermore contains a surface-active agent.
[Claim 32]It is a reducing method of curl of paper of a regular paper print element which consists of a process of usually giving an ink composition intrinsically to a base paper, A method containing at least one curl inhibitor of sufficient quantity for the above-mentioned ink composition to remove substantially curl of an aqueous carrier medium, colorant, and the above-mentioned common base paper.
[Claim 33]A curl inhibitor has at least 4.5% of water solubility at 25 **, and it is (a). 1,3-diol, 1,3,5-triol, amino-1,3-diol, and the following structural formula : [Formula 5]



[Independently R^1, R_2, R_4, R_5, and R_6 among a formula H, Are C_nH_{2n+1} (it is n= 1-4 here) or $C_nH_{2n}O$

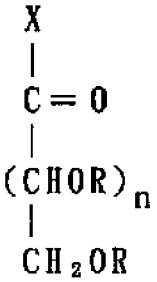
$(CH_2CHYO)_bH$ (it is n= 1-6 and b= 0-25 here), and;R_3=H, C_nH_{2n+1} (it is n= 1-4 here), $C_nH_{2n}O(CH_2CHYO)_bH$ (it is n= 1-6 and b= 0-25 here), or $(CH_2)_e$ NXZ (here -- X and Z -- independently -- H -- it CH-3(ing) and) Are C_2H_5 or $C_2H_4O(CH_2CHYO)_dH$ (it is d= 0-25 and e= 0-3 here), and;Y=H or CH_3;a, and c independently. The polyoxyalkylene derivative which has that it is 0-25 and totals of; and a CH_2CHYO unit are 0-100];

(b) Polyols and the following structural formula : [Formula 6]



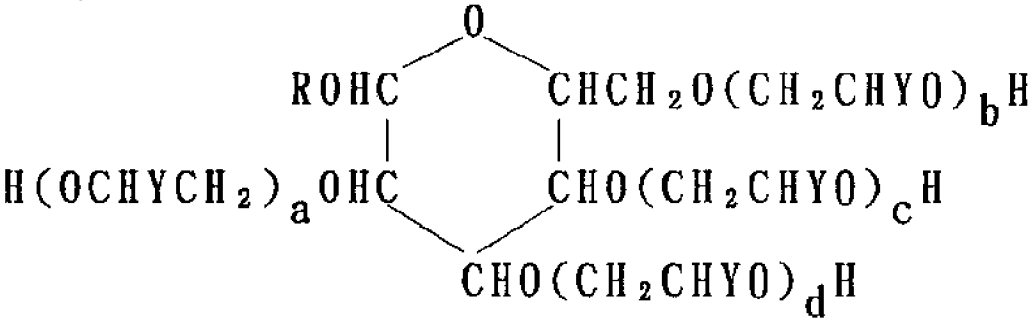
[Among a formula, independently, R is H, C_nH_{2n+1} (it is n= 0-4 here), or $CH_2O(CH_2CHYO)_eH$, and; Y=H, CH_3;b=0, or 1;a, Although c, d, and e are 0-40 independently and the totals of;f=1-6; and a CH_2CHYO unit are 0-100, The polyoxyalkylene derivative which has that however, e is not 0 when it is a, b, c, d= 0, and f= 1 and R is not H but a, c, d= 0, b, and f= 1];

(c) The following structural formula : [Formula 7]



[The inside of a formula, X=H, OH, $CH_2O(CH_2CHYO)_aH$, It is $O(CH_2CHYO)_bH$ or OM (OM is a metallic cation here), and is :n=2 - 7;R=$(CH_2CHYO)_c$ (here). Compound which has that Y=H or CH_3; a, b, and c are 0-25 independently, and the totals of; and a CH_2CHYO unit are 0-125];

(d) Pyranoside and the following structural formula : [Formula 8]



The polyalkoxy alkylene derivative which has [it is inside of a formula, R=H, or C_nH_{2n+1} (it is n= 0-4 here), and;a, b, c, and d are 0-30 independently, and the totals of;Y=H or CH_3;, and a CH_2CHYO unit are 0-120];

(e) Structural-formula:H-(OCH_2 CHY) $_x$OH(inside of formula, Y=H or CH_3, and x= 3-20); and the (f) structural formula which are the following : $Z_1Z_2N(CH_2CH_2NZ_3)_nZ_4$The inside of [type, Z_1, Z_2, Z_3, and Z_4 are $_a$H (here) independently (CH_2CHYO). The method according to claim 32 chosen from the group which consists of a polyoxyalkylene derivative of the aliphatic polyamine which has that it is Y=H or CH_3,;n=1-20;a is 0-20 independently, and the totals of; and a CH_2CHYO unit are 3-200].

[Claim 34]A way according to claim 33 a curl inhibitor is a compound which has a structural formula (a).

[Claim 35]A way according to claim 33 a curl inhibitor is a compound which has a structural formula (b).

[Claim 36]A way according to claim 33 a curl inhibitor is a compound which has a structural formula (c).

[Claim 37]A way according to claim 33 a curl inhibitor is a compound which has a structural formula (d).

[Claim 38]A way according to claim 33 a curl inhibitor is a compound which has a structural formula (e).

[Claim 39]A way according to claim 33 a curl inhibitor is a compound which has a structural formula (f).

[Claim 40]A way according to claim 33 the above-mentioned colorant contains paints and a polymers dispersing agent.

[Claim 41]A way according to claim 33 the above-mentioned colorant contains a color.

[Claim 42]A way according to claim 41 the above-mentioned ink composition contains AB block polymer, BAB block polymer, ABC block polymer, and random polymer further.

[Claim 43]A method according to claim 33 including that the above-mentioned process of the above-mentioned ink composition containing ink jet ink, and giving the above-mentioned ink to a base material gives the above-mentioned ink using an ink jet printer.

[Translation done.]